

Title (en)

Method for analyzing a digital-to-analog converter with nonideal analog-to-digital converter.

Title (de)

Methode zur Analyse eines Digital-Analog-Umsetzers mit Hilfe eines nicht idealen Analog-Digital-Umsetzers.

Title (fr)

Méthode pour analyser un convertisseur numérique-analogique par l'intermédiaire d'un convertisseur analogique-numérique non idéal.

Publication

EP 0066504 A1 19821208 (EN)

Application

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Priority

US 26492881 A 19810518

Abstract (en)

A method for statistically calibrating a digital-to-analog converter (14) with an electronic test system. The digital-to-analog converter is excited with two state signals at each input bit which together represent a single signal with uniform amplitude probability with respect to time, and wherein each excitation signal is orthogonal with respect to all other excitation signals. The output x(+) of the digital-to-analog converter (14) is detected by an analog-to-digital converter (16) which has been calibrated by premeasured weighting coefficients with respect to two-state orthogonal signals. The digital time domain output signals are then mapped into a transform domain to obtain weighting coefficients of each bit of the output response. Finally the transform domain weighting coefficients are weighted by the reciprocal of the premeasured weighting coefficients to obtain the unbiased weight of each bit of the digital-to-analog converter under test. A preferred set of excitation signals is a set of Walsh function signals representing the digital equivalent of a linear ramp function.

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H03K 13/32; **G01R 31/28**

IPC 8 full level

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CPC (source: EP US)

G06G 7/19 (2013.01 - EP US); **H03M 1/1071** (2013.01 - EP US)

Citation (search report)

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